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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BELLO, AGUSTIN	

ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,430	PICHLER ET AL.	
	Examiner	Art Unit	
	Agustin Bello	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12 and 15-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12 and 15-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 12, 15-19 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Graves (U.S. Patent No. 7,212,739).

Regarding claims 12, Graves teaches an optical cross-connect, comprising: a) a first plurality of input channels for through data traffic (reference numeral 22 in Figure 2); b) a second plurality of output channels for the through data traffic (reference numeral 28 in Figure 2); c) a plurality of first optical switching matrices (reference numeral 12a-12m in Figure 2) comprising a first group of input ports (reference numeral 24 in Figure 2) which are connected to the input channels of the cross-connect, and a first group of output ports (reference numeral 26 in Figure 2) which are connected to the output channels of the cross-connect, for interconnecting the input channels and the output channels; d) a group of one or more signal shaping units formed as wavelength converters (reference numeral 14 in Figure 2); e) means (reference letter K, the internal switches of optical switch matrices 12a-12m in Figure 2) for connecting a second group of output ports of the first optical switching matrices to a respective input of a signal shaping unit of the group, and means (reference letter K in Figure 2) for connecting a second group of input ports of the first optical switching matrices with a respective output of one of the

signal shaping units; f) each of the first switching matrices being operative for switching communication signals at a same wavelength assigned to the first switching matrices (column 4 line 49 – column 5 line 17); and g) the connecting means being operative for connecting an input and an output of one of the wavelength converters with different ones of the first switching matrices (as noted in Figure 2), the connecting means comprises switching elements (reference numeral 12a-12m and 14 in Figure 2) for selectively connecting the output or the input of one of the signal shaping units to one of several of the input ports or output ports, respectively, of the first switching matrices.

Regarding claim 15, Graves teaches the optical cross-connect of claim 12, in that each signal shaping unit is operative for shaping an individual communication signal (inherent in the wavelength converting switch 14 of Figure 2).

Regarding claim 16, Graves teaches the optical cross-connect of claim 12, in that the connecting means comprises at least one second switching matrix (reference numeral 58a in Figure 3) with selectively connects a second group of output ports of the first switching matrices to said one wavelength converter.

Regarding claim 17, Graves teaches the optical cross-connect of claim 16, in that the connecting means comprises at least a third switching matrix (reference numeral 56a in Figure 3) which selectively connects the wavelength converters to one of a second group of input ports of the first switching matrices.

Regarding claim 18, Graves teaches the optical cross-connect of claim 12, in that each input channel is connected to the first switching matrices via a wavelength demultiplexer

(reference numeral 16a-16n in Figure 2) and/or the first switching matrices are connected to each output channel via a wavelength multiplexer.

Regarding claim 19, Graves teaches the optical cross-connect of claim 12, and comprising inputs and/or outputs (reference numeral 16a-16n, 24 in Figure 2) for branching the through data traffic, and means (reference numeral 12a-12m, 18a-18n, 26 in Figure 2) for connecting these inputs or outputs to a second group of input or output ports of the first switching matrices.

Regarding claim 21, Graves teaches the optical cross-connect of claim 12, in that the first group of input (reference numeral 22 in Figure 2) ports are connected to the input channels (reference numeral 24 in Figure 2) and/or the first group of output ports are connected to the output channels, respectively, without a switching matrix being inserted in between.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graves.

Regarding claim 20, Graves differs from the claimed invention in that Graves fails to specifically teach that each wavelength converter has a wavelength-tunable transmitter part. However, the use of wavelength tunable transmitter parts in wavelength converters is well known in the art and Official Notice is given to that effect. One skilled in the art would have been motivated to employ tunable transmitter parts in the wavelength converters of Graves in

order to allow for conversion of any input wavelength to any output wavelength. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include tunable transmitter parts in the wavelength converters of Graves.

Response to Arguments

5. Applicant's arguments filed 02/01/08 have been fully considered but they are not persuasive. Applicant argues that Graves fails to specifically teach that the connecting means comprises switching elements for selectively connecting the output or the input of one of the signal shaping units to one of several of the input ports or output ports, respectively, of the first switching matrices. However, as noted in the previous office action and reiterated here, Graves clearly teaches that switching elements, namely switching matrices (reference numeral 12a-12m and 14 in Figure 2), are part of the connecting means.

While applicant contends that further switching elements between the switching matrices and the wavelength converting switch of Graves are required to anticipate the claimed invention, the examiner has given the claim language its the broadest reasonable interpretation. Under this interpretation, there is no requirement for further switching elements between switching matrices and the wavelength converting switch of Graves. In fact, the claim simply requires some "means for connecting" which is clearly met by Graves' connection lines "K" and the internal switches of optical switching matrices 12a-12m in Figure 2, and then that the connecting means be comprised of switching elements, which the switching matrices 12a-12m clearly are. Clearly, when Graves' connection lines "K" and the internal switches of optical switching matrices 12a-12m in Figure 2 are taken together, they anticipate applicant's claim to a means for connecting and the connection means.

Furthermore, the claim language fails to make clear what parts are necessary elements of the "means for connecting," what parts are necessary elements of the "connecting means," whether the necessary parts for the "means for connecting" are also necessary for the "connecting means," or that the switching matrices must be separate and distinct from the claimed "switching elements" of cancelled claim 14. Given, the broad claim language the examiner maintains that Graves anticipates the claimed invention.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Agustin Bello whose telephone number is (571) 272-3026. The examiner can normally be reached on M-F 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Agustin Bello/
Primary Examiner, Art Unit 2613